MYXOEDEMA WITH ENOPHTHALMOS*

BY

R. J. SCHEN

Internal Department "C", Hadassah Municipal Hospital, Tel-Aviv, Israel

IN hypothyroidism, the palpebral fissures are generally narrowed, in striking contrast to the stare of Graves's disease. This narrowing of the palpebral fissures, which is attributed to the myxoedematous swelling of the eyelids, often gives a false impression of enophthalmos. True enophthalmos (*i.e.* backward displacement of the eye in the orbit) may occur in myxoedema (Lemoine, 1938), but seems to be very unusual.

This paper describes a case of spontaneous myxoedema in which marked, bilateral enophthalmos was noted.

Case Report

A Jewish woman of European descent, born in Palestine in 1898, was first admitted to this hospital in 1955, because of anaemia due to bleeding haemorrhoids. According to her relatives, her appearance had begun to change some 10 years previously, and she had become lethargic and apathetic. A clinical diagnosis of myxoedema was made.

She was admitted again in March, 1959, because of a suspected fractured rib, after having fallen heavily at home. Her chief complaints were dizziness and general weakness. She had not been taking thyroid extract for at least a year.

Examination.—She appeared apathetic and was slow in answering questions. The skin was dry and cool to the touch. The voice was deep. The eyelids were puffy, the palpebral fissures narrow, and the hairs of the outer part of the eyebrows sparse (Figure). The fundi were normal. The blood pressure was 230/140. The body weight was 72 kg.

FIGURE.—Typical myxoedematous facies.

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Laboratory Investigations.—Glucose: 68 mg. per cent. Urea: 20 mg. per cent. Cholesterol: 430 mg. per cent. Carotene: 96 μ g. per cent. Vitamin A: traces only. Protein-bound Iodine: 2.8 μ g. per cent. Basal Metabolic Rate: -40 per cent. 17-Ketosteroids: 1.7 mg./24 hrs. Erythrocytes: 3,300,000. Leucocytes: 5,000.

Urine: Normal.

X-rays: Enlarged cardiac outline and normal sella turcica.

Electrocardiogram: Flat T-waves in all leads.

Therapy.—The patient was given thyroid extract 0.1 g. twice daily.

Progress.—She became more alert and her face became less puffy. Her body weight went down to 67 kg., the serum cholesterol to 270 mg. per cent., and blood pressure to 170/100. The electrocardiogram showed positive T-waves in Leads I, II, AVL, V2, V4, and V5.

The patient left hospital in good condition.

Eyes.—After 2 weeks in hospital (*i.e.* 7 days after starting treatment with thyroid extract), attention was drawn to the fact that the patient's eyes were deeply sunken. Exophthalmometry was performed, using the Hertel instrument; the readings for both eyes were 4 mm. only, the lowest level in normal eyes being 9 mm.

Discussion

According to Zondek (1953), exophthalmos may occur in myxoedema, but it is liable to go unnoticed because of the swollen eyelids; the absence of lid-retraction also tends to make the exophthalmos less obvious. Galli-Mainini (1942), who studied 34 cases of spontaneous myxoedema with the Luedde exophthalmometer, found that the eyeballs in 21 patients protruded more than normal, taking a reading of more than 17.5 as abnormal. In no case was enophthalmos noted.

Dobyns and Haines (1946), who investigated thirteen cases of myxoedema using the Hertel exophthalmometer, found that treatment with thyroid hormone tended to cause a slight backward displacement of the eyeball of 1 to 2.75 mm. This was attributed to loss of fluid from the orbital tissues. In none of this series of cases was pathological enophthalmos noted, either before or after treatment with thyroid extract.

In the case described here, the eyes were deeply sunken and the exophthalmometer readings were well below the limits of normal. Bilateral enophthalmos is known to occur in cachexia and in dehydration, but neither of these causes applied here. Treatment with thyroid hormone, as noted above, may cause a slight sinking of the eyeball in the orbit; the patient in this case had received thyroid extract, but it is most unlikely that this treatment did more than to cause a slight increase in the enophthalmos already present.

The most likely explanation is that the enophthalmos in this case is purely incidental. However, it is tempting to suggest the possibility that it may have resulted from the patient's endocrine disorder.

Summary

A case of myxoedema with marked bilateral enophthalmos is described.

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